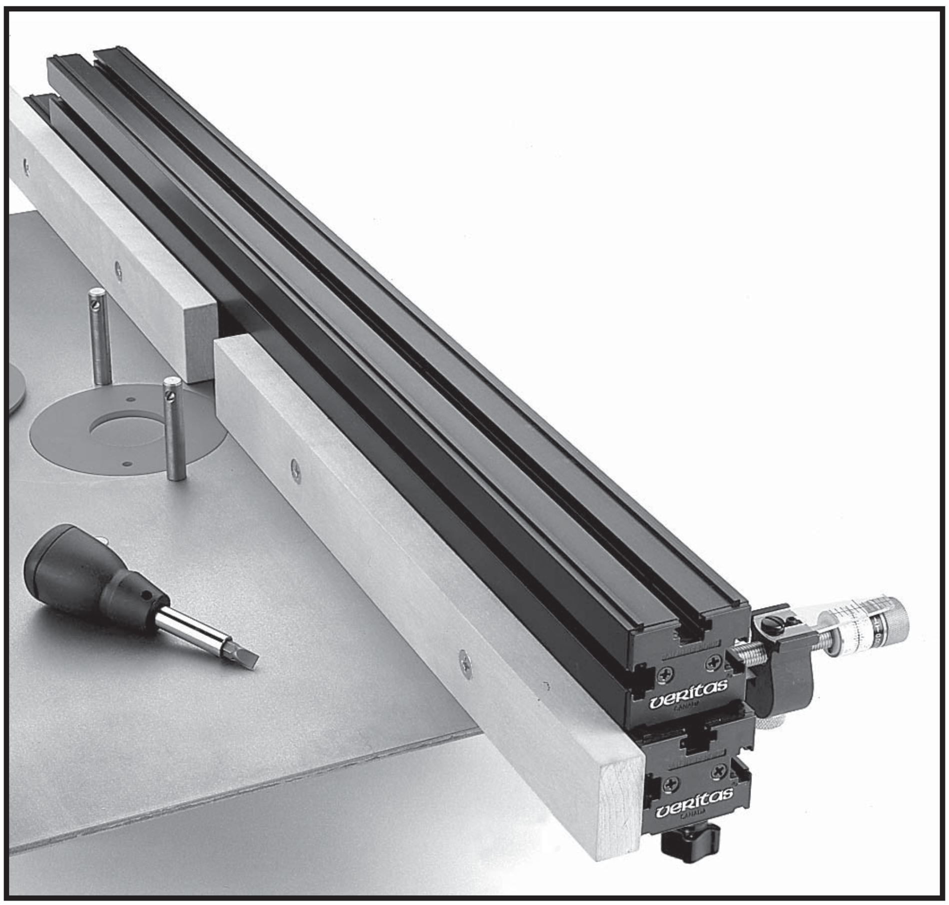
Router Table Fence

Owner's Manual



05J21.01

U.S. Patent No. RE38,612
U.K. Patent No. 2,309,664

The Veritas® Router Table Fence can be used with a variety of router tables, but comes with clamps specifically designed to fit the Veritas® Router Table*. In combination, the fence and table offer new highly accurate methods of machining wood. As with any power tool, you should read these instructions first to be sure that you get the most from the tool while operating it safely.

** Or any other router table top not thicker than 1/4", nor longer than 24".*

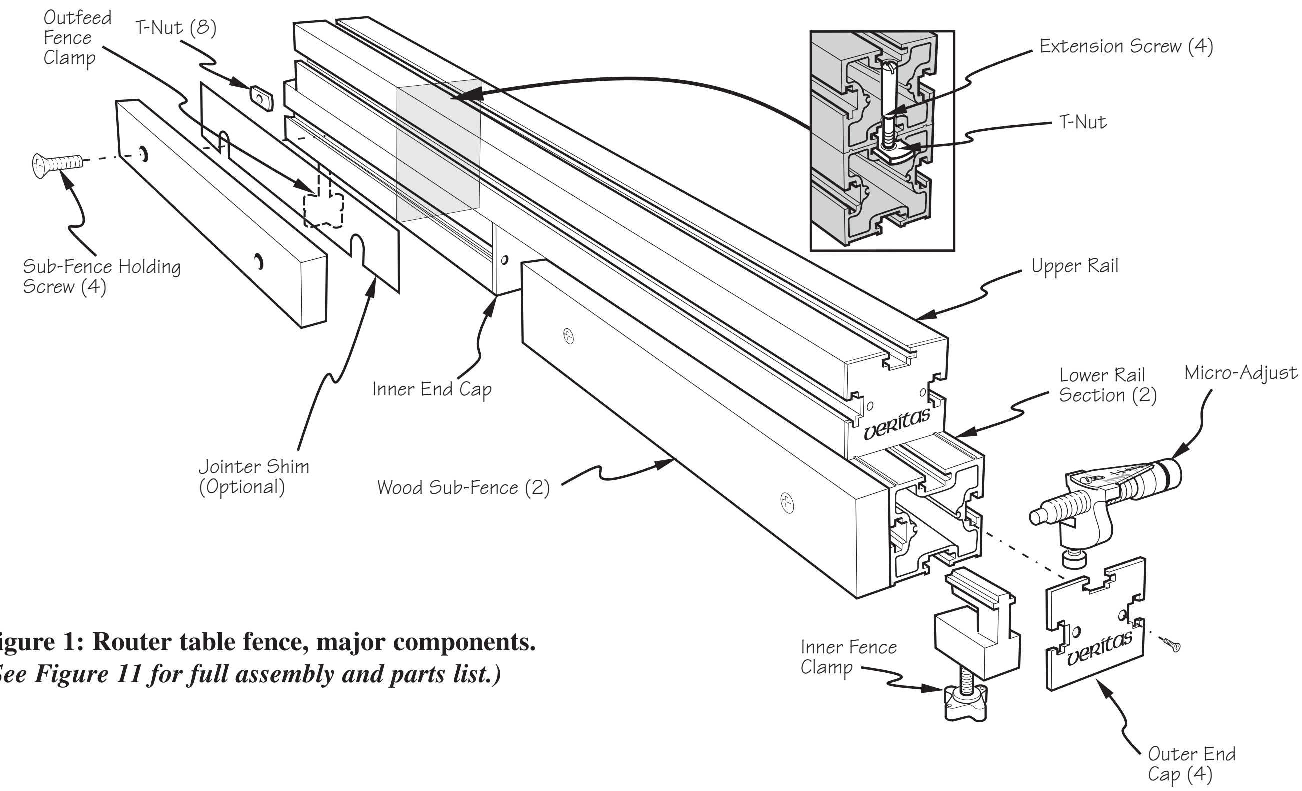
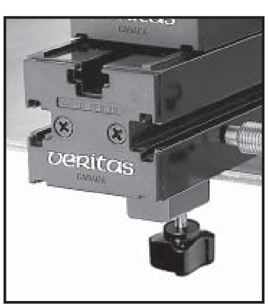


Figure 1: Router table fence, major components.
(See Figure 11 for full assembly and parts list.)

Fence Construction

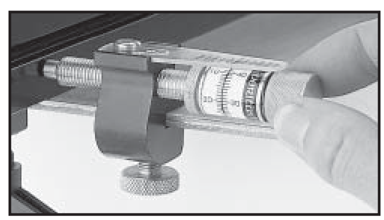
The fence is made from three pieces of 2″ wide anodized aluminum. (See **Figure 1**.) The upper section is a single solid piece; the lower section is divided so that the center opening can be varied to fit a wide range of bit sizes at the same time as it allows clean collection of chips and dust. To control both air flow and chips, the bit ends of the lower section have full end caps; the clamp ends have fitted end caps that allow full access to five of the six T-slot tracks; the bottom slot is blocked to keep the table clamps from falling out when the fence is removed from the table. In normal use, two wooden sub-fences are attached to the lower sections. They attach with the provided T-nuts and screws.

Fence Clamps



The fence clamps slide freely in the bottom T-slot track until clamped. The non-marring clamp studs have domed tips to prevent "walking" during tightening and to ensure pivoting when one is loosened for adjustment of cut.

The Micro-Adjust System



The micrometre is designed for fast and accurate adjustment of the fence. It gives direct reading of the amount of movement at the bit, not at the fence end. To use it, you set the fence by conventional means, make a test cut, measure the cut error and then use the micrometre to adjust exactly to the finished dimension. This can be done by using the provided fractional/decimal chart (shown on the back page), but a dial caliper is the most convenient tool for the process.

Aligning the Fence

Manufacturing tolerances create a small amount of lateral play between upper and lower fence sections. To align these perfectly, lay the fence on its face and then tighten the screws when you have the desired center opening. Alternatively, you can leave the fence upright and use your fingers to check top and bottom alignment before tightening; your own sense of touch can be very accurate.

Using Sub-Fences

For almost all cuts a sub-fence is useful. It gives maximum work support and reduces tear-out to a minimum when the opening is contoured to fit the bit. You can shape the sub-fence ends by sawing or carving them, but the easiest and most accurate way is to cut them with the bit itself. You can make several sets to match the various bits normally used. As it isn't necessary to have the opening match the bit contour precisely, a set of sub-fences may do for several similar bits.

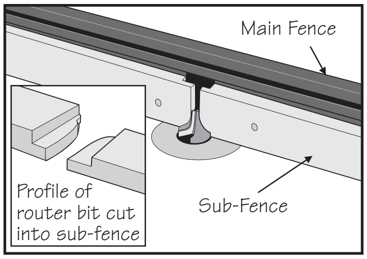


Figure 2: Full contoured sub-fences.

For the most efficient chip clearance, you should first relieve the back side of both the infeed and outfeed ends. The relief should be deep enough so that the back face of the sub-fence is even with the centerline of the bit (see **Figure 3**). The idea is to give the chips plenty of room to move at the instant they can be released in the right direction, directly toward the opening between the lower rails.

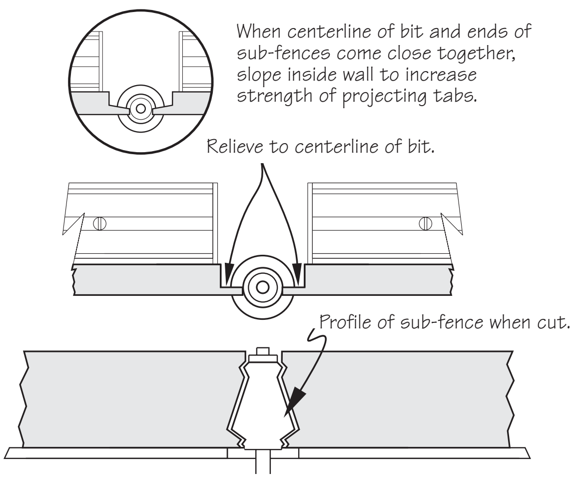


Figure 3: Form fitting sub-fence ends cut by router bit.

To cut the contour on the infeed sub-fence, loosen the locking screws just enough to allow the sub-fence to slide and slowly feed it into the spinning bit. Keep a good grip on it, so the operation is carefully controlled to avoid chatter and crowding the bit. When you reach the desired profile, back off 1/64″ or so.

Back relief and a close contour are less necessary on the outfeed end, as tear-out and chip clearance are unaffected; freehand shaping with a chisel or coping saw is adequate. If you do cut the outfeed contour with the bit, be aware of the danger of the work being drawn into the bit, jamming it and damaging the equipment.

For bits of 2″ diameter and larger, there is no need for a close-fitting profile, as the workpiece is usually large enough that it doesn't need the close support. Another reason to avoid the process is the danger in feeding the sub-fence into such a large bit.

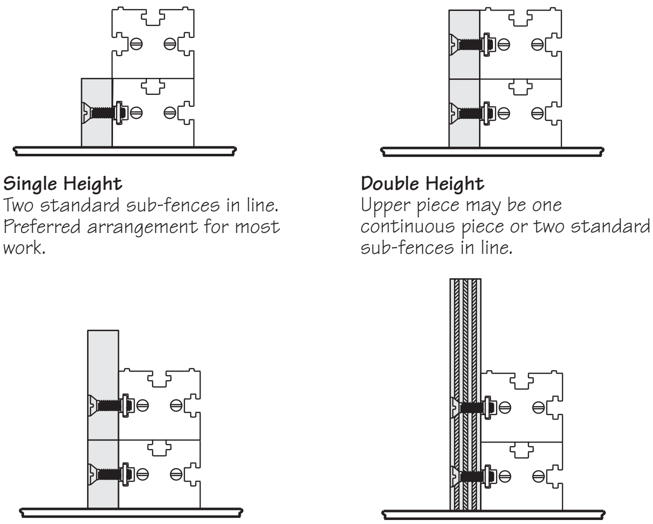


Figure 4: Sub-fence options.

You can easily make higher sub-fences, if required for panel or tenon work, as shown in **Figure 4**.

Replacement sub-fences (05J21.03) are available from your Veritas dealer. You can also make your own (see **Figure 5**). We suggest making them from clear poplar, basswood, pine, or any other similar closed-grain softwood.

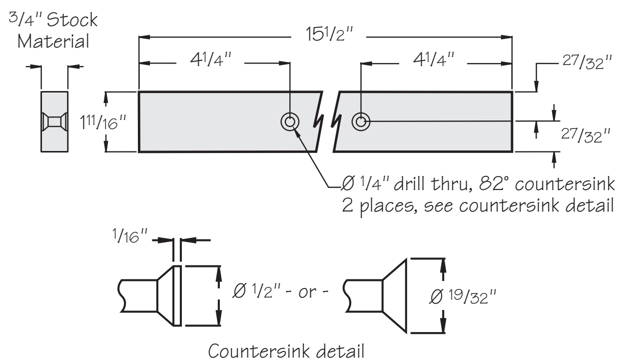


Figure 5: Wood sub-fence.

Basic Cuts and Adjustments

Suppose you want to cut a rabbet exactly 1/4″ wide and 1/2″ high. Set the bit height to 1/2″ as you normally would, align the fence and position it straddling the bit with about 3/16″ clearance between the bit and the lower rail ends. Tighten the outfeed clamp and pivot the fence to set it for an approximate 1/4″ cut. Clamp the infeed end, make the test cut and measure the result. If the cut is only 0.240″, zero the micro-adjust, slide it up to the fence and clamp it into position. Back off the spindle a reading of 0.010″ (which is actually 0.020″ at the fence end but 0.010″ at the bit), unclamp the infeed fence end and slide it over snug to the micro-adjust spindle tip. The bit will now cut exactly 0.250″. If you need to approach the final thickness with a series of rough cuts, they can be made with adjustments done by eye. The micro-adjust can be set for just under the final depth, so the final pass can be made with accuracy.

Jointing with optional jointer shims (05J21.05)

With the router fence, a straight bit and a set of Veritas jointing shims, you can do rapid and precise jointing. The Veritas jointing shims are color coded by thickness:

Blue	**=**	**0.010″**
Black	**=**	**0.020″**
White	**=**	**0.030″**

Decide what thickness of material you want to remove at each pass and put an equal thickness of shim(s) behind the outfeed sub-fence. Using a straight edge against the outfeed fence, set it flush with the bit, just as you would do with the outfeed table of a jointer. With an accurately set bit, both fences will support the workpiece, allowing you to remove exactly the shim thickness with each pass.

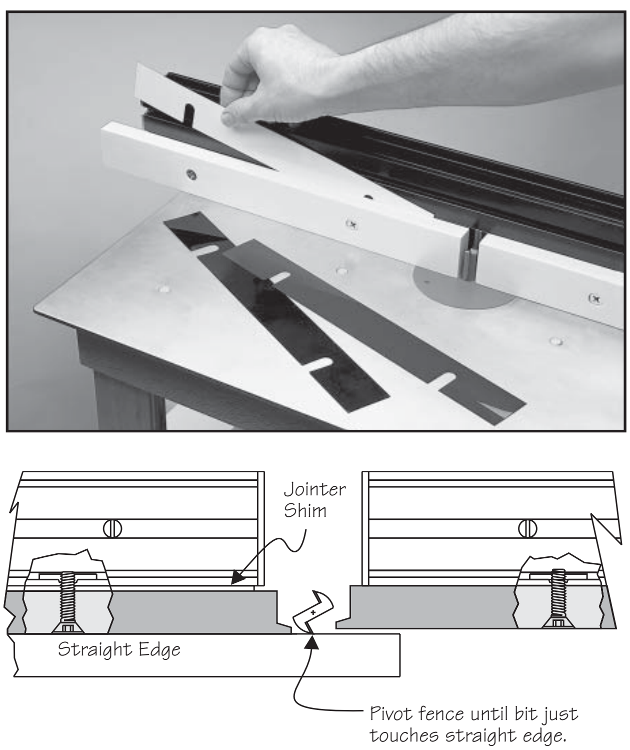
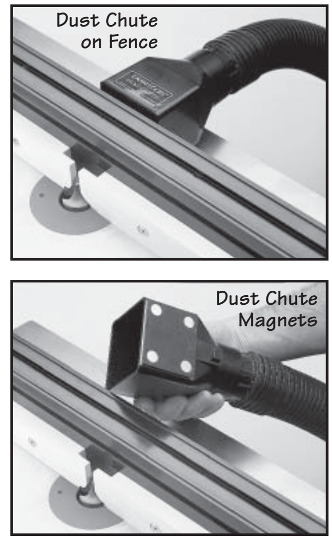


Figure 6: Fence used as an edge jointer.

Discharge and Chip and Dust Collection

Veritas offers a magnetically held Dust Chute (05J21.10) with 3″ × 3″ mouth and 1 1/4″ and 2 1/2″ inlet adapter to fit most shop vacuums. (See photo of Dust Chute.) With this dust chute located behind the gap between the lower rails, chips and dust can be completely contained.

For large central dust collection systems with 4″ diameter hose, we make available a Dust Collection Adapter Kit (05J21.11) made up of an 80″ length of 2 1/2″ hose and swivel couplings, plus a 2 1/2″ to 4″ adapter.



Veritas® Dust Chute
U.S. Patent No. #5,967,717
U.K. Patent Nos. #2,309,664 & 2,334,915

You can, of course, make your own vacuum attachment. In fact, with fitted sub-fences, you can collect virtually all of the chips and much of the dust without even using a vacuum (see **Figure 7**). All that is needed is to attach a shaped chip deflector block to the end of the outfeed fence (rigid foam works well for this, see **Figure 8**). The bit then acts like a rotary pump, driving the chips through the opening. The confined flow may be directed into a container.

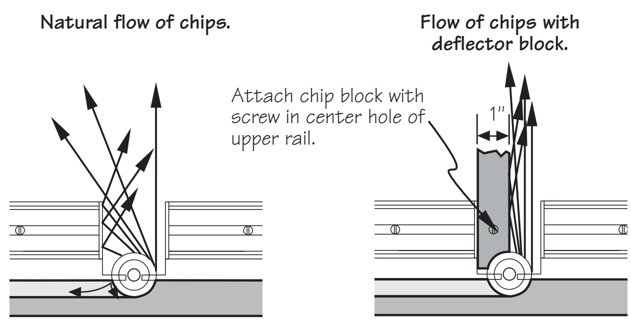


Figure 7: Discharge pattern of dust and chips showing effect of confinement.

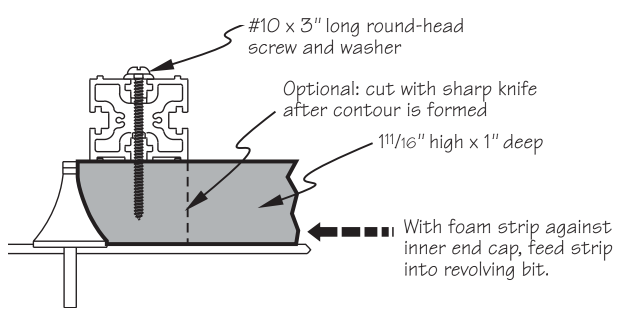


Figure 8: Making your own chip deflector block.

Optional Position Stops (05J21.07) and Their Uses

The brass position stops clamp at the table edge, acting as position limiters for the fence. They allow the fence to be removed for other operations and returned to the same position.

A further example of their use is cutting a series of parallel grooves in a workpiece. (See **Figure 9**.)

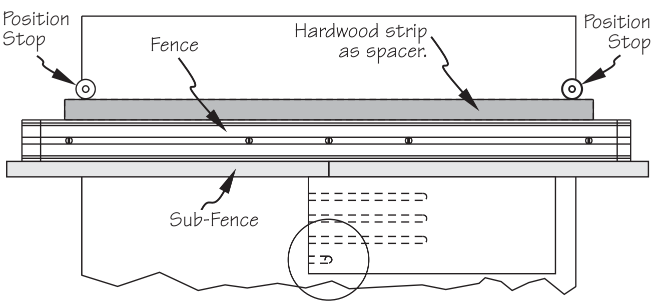


Figure 9: To make a series of parallel grooves.

The steps are:
1. Set up the fence at the proper distance from the bit. Cut the first groove.
2. Cut a strip of wood to the width of the desired spacing between cuts.
3. Place the strip behind the fence and clamp the position stops in contact with the strip.
4. Remove the strip and move the fence to the stops. Reclamp the fence and cut the second groove.
5. Repeat *steps 3* and *4* until all the grooves have been cut.

Note: *Reversing the strip end for end between cuts will minimize cumulative error.*

Do-It-Yourself Jigs

With T-nuts and the channels in the fence rails, you can readily make wooden jigs such as stop blocks or hold-downs that slide against or attach to the fence. Six extra 1/4-20 T-nuts are included for this purpose. An example is shown in **Figure 10**.

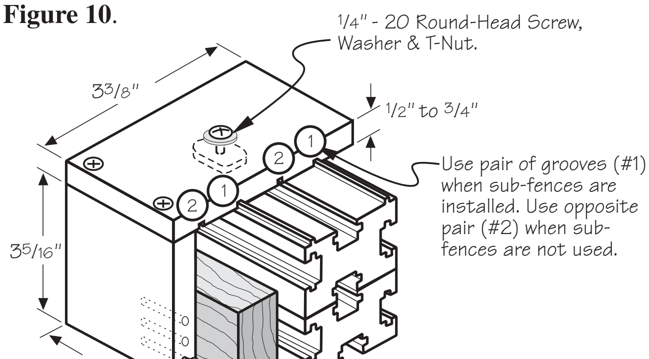


Figure 10: Shop-made sliding stop block.

Accessories

05J21.03	Pair Wood Sub-Fences
05J21.05	Set of Jointing Shims
05J21.07	Pair of Position Stops
05J21.10	Dust Chute and Adapter
05J21.11	4″ Adapter & Hose

Troubleshooting

Problem: Work catches on the end of the outfeed sub-fence.

Solution:

a) You may not have set the lower rails perfectly flush with one another. If necessary, loosen the extension screws in the top rail and reset the lower rails.

b) Seasonal movement may have caused one or both of the sub-fences to become bowed outward or become twisted. Either joint the outer face flat, or add countersinks to the opposite face of the mounting holes, and reinstall the sub-fences with the concave face next to the rail. The holding screws will then draw the sub-fences flat.

Problem: The advance of the micro-adjust does not correlate perfectly with the change in cut.

Solution:

a) The outfeed fence clamp may not be tight, causing the fence to walk slightly as the nearside is pivoted.

b) The accuracy of the micro-adjust could be affected by backlash, a phenomenon that exists as a result of the small amount of play between mating threads. The micro-adjust body contains a nylon-tipped set screw (part #21, ref. **Figure 11**) which has been factory set to eliminate free play, while still allowing the micrometre spindle to be easily turned. If required, this set screw may be readjusted.

c) Your workpiece may have accidentally lost contact with the fence.

d) Your router bit or collet may not be running true.

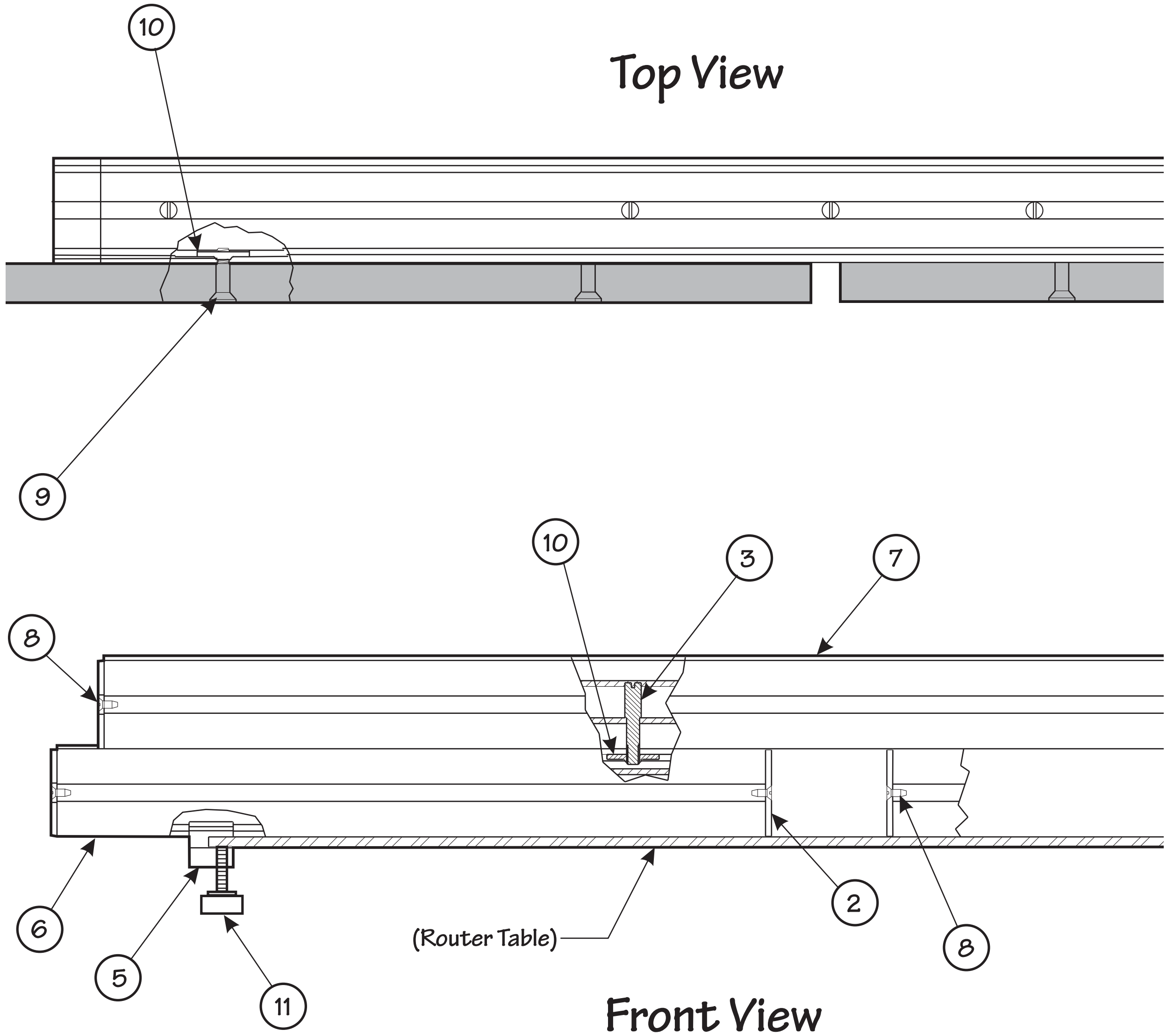
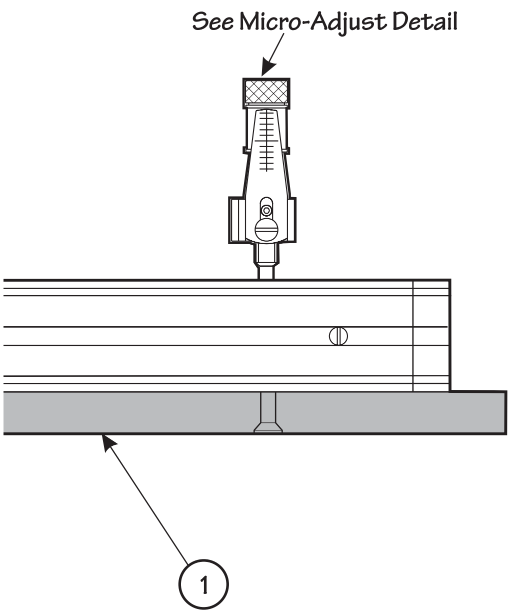
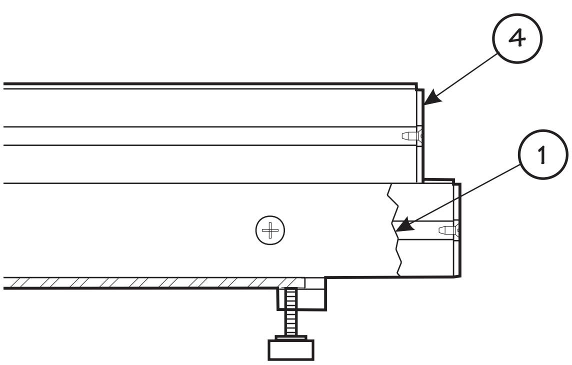
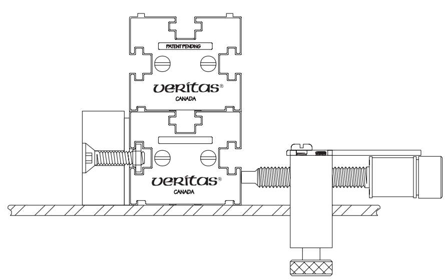


Figure 11: Assembly and parts list.

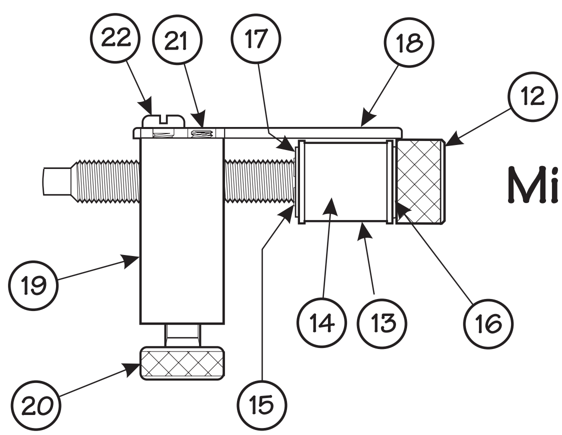


	PART #	QTY	DESCRIPTION
ROUTER FENCE COMPONENTS	1	2	WOOD SUB-FENCE (REPL. AVAIL.,05J21.03)
	2	2	INNER END CAP
	3	4	EXTENSION SCREW
	4	4	OUTER END CAP
	5	2	FENCE CLAMP
	6	2	LOWER RAIL
	7	1	UPPER RAIL
	8	12	#6-32 x 3/8" FLAT-HEAD SCREW
	9	4	1/4-20 x 1" FLAT-HEAD SCREW
	10	14	1/4-20 T-SLOT NUT
	11	2	M6 KNOB
MICRO-ADJUST COMPONENTS	12	1	MICRO-ADJUST SCREW
	13	1	MICRO-ADJUST SLEEVE
	14	1	MICRO-ADJUST LABEL
	15	1	3/8" RETAINING RING
	16	1	WAVE WASHER
	17	1	NYLON WASHER
	18	1	PLASTIC CURSOR
	19	1	MICRO-ADJUST BODY
	20	1	THUMBSCREW
	21	1	10-32 x 1/4" NYLON-TIP SET SCREW
	22	1	10-32 x 1/4" BINDER HD. SCREW





End View



Micro-Adjust – Detail

Fractional/Decimal Equivalents

Fractional	Decimal	Fractional	Decimal
1/256″	.0039	1/2″	.5000
1/128″	.0087	33/64″	.5156
1/64″	.0156	17/32″	.5313
1/32″	.0313	35/64″	.5469
3/64″	.0469	9/16″	.5625
1/16″	.0625	37/64″	.5781
5/64″	.0781	19/32″	.5937
3/32″	.0937	39/64″	.6094
7/64″	.1093	5/8″	.6250
1/8″	.1250	41/64″	.6406
9/64″	.1406	21/32″	.6562
5/32″	.1562	43/64″	.6719
11/64″	.1719	11/16″	.6875
3/16″	.1875	45/64″	.7031
13/64″	.2031	23/32″	.7187
7/32″	.2187	47/64″	.7344
15/64″	.2344	3/4″	.7500
1/4″	.2500	49/64″	.7656
17/64″	.2656	25/32″	.7812
9/32″	.2812	51/64″	.7969
19/64″	.2969	13/16″	.8125
5/16″	.3125	53/64″	.8281
21/64″	.3281	27/32″	.8437
11/32″	.3437	55/64″	.8594
23/64″	.3594	7/8″	.8750
3/8″	.3750	57/64″	.8906
25/64″	.3906	29/32″	.9062
13/32″	.4062	59/64″	.9219
27/64″	.4219	15/16″	.9375
7/16″	.4375	61/64″	.9531
29/64″	.4531	31/32″	.9688
15/32″	.4687	63/64″	.9844
31/64″	.4844	1″	1.0000

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INS-096 Rev. F
Printed in Canada.